CLAIMS

1. (Currently Amended)   A method of designing a Herschel-Quincke tube arrangement comprising the steps of:

     a)   representing a tube arrangement including a first passageway and second passageway fluidly connected to the first passageway at first and second junctions, the second passageway divided by the junctions into first, second, and third passages;

     b)   associating lengths with each of the first passageway and the first, second, and third passages producing a particular length combination;

     c)   calculating a filter parameter for the particular length combination based upon a target frequency range;

     d)   associating other lengths with each of the passageway and the first, second, and third passages producing another particular length combination;

     e)   calculating another filter parameter for the other particular length combination based upon the target frequency range; and

     f)   selecting one of the length combinations for the Herschel-Quincke tube arrangement based upon desired parameters including the filter parameters.

2. (Original) The method according to claim 1, wherein calculating the filter parameters includes determining a transmission loss based upon a pressure ratio of the pressures at the junctions.

- 4 -

Serial No: 10/624,629

3. (Original) The method according to claim 2, wherein the filter parameters are logarithmic functions of the pressure ratio.

4. (Currently Amended)   The method according to claim 1, wherein the filter parameters are an average transmission loss for the target frequency range over a standard deviation of the transmission loss for the target frequency range.

5. (Currently Amended)   The method according to claim 4, wherein the standard deviation is a function of bandwidth of a desired the target frequency range.

6. (Currently Amended)   The method according to claim 4, wherein the desired parameter includes parameters include the highest filter parameter.

7. (Currently Amended)   The method according to claim 6, wherein the desired parameter includes parameters include a shortest length of the first passageway for the length combinations. ·

8-15. (Cancelled)

- 5 -

16. (Currently Amended)   A method of manufacturing a Herschel-Quincke tube arrangement comprising the steps of:

a)   forming a first passageway and second passageway fluidly connected to the first passageway at first and second junctions with the second passageway divided by the junctions into first, second, and third passages, the first and second passageways being generally planar, the first passageway extending from an inlet to the tube arrangement to an outlet from the tube arrangement;

b)   ~~bending~~ forming the first ~~and second passageways to~~ passageway in a nonplanar configuration; and

c)   securing at least one of the first and second passageways to a vehicle component; and

d)   coupling the outlet to a vehicle engine.

17. (Original) The method according to claim 16, wherein step a) includes molding the first and second passageways with plastic.

18. (Original) The method according to claim 17, wherein step a) includes securing first and second portions to one another to form the first and second passageways.

19. (Original) The method according to claim 16, wherein the first and second passageways are constructed from a flexible material.

- 6 -

20. (Original) The method according to claim 16, wherein step b) includes heating the first and second passageway to make the passageways more pliable.

21. (New)   A method of designing a Herschel-Quincke tube arrangement comprising the steps of:

    a)   representing a tube arrangement including a first passageway and second passageway fluidly connected to the first passageway at first and second junctions, the second passageway divided by the junctions into first, second, and third passages;

    b)   associating lengths with each of the first passageway and the first, second, and third passages;

    c)   analyzing a ratio of average transmission loss over a selected frequency range to standard deviation of the transmission loss over the selected frequency range as a function of the lengths of the first, second and third passages and the first passageway; and

    d)   based upon the analysis of the ratio in said step c), selecting lengths for each of the first, second and third passages and the first passageway for the Herschel-Quincke tube arrangement.

22. (New) The method of claim 21 wherein the step of selecting in said step d) is further based upon the length of the first passageway, wherein the first passageway includes an inlet to the tube arrangement and an outlet from the tube arrangement.

23. (New) The method of claim 16 wherein the inlet is not parallel to the outlet.

- 7 -

24. (New) The method of claim 16 wherein the second passageway is formed in a nonplanar configuration.

25. (New) The method of claim 16 wherein the second passage is between the first and second junctions and the second passage is looped about a first axis and is curved about a second axis not parallel to the first axis.

26. (New) The method of claim 16 wherein the first and third passages extend from the first and second junctions, respectively, and wherein the first and third passages each have a closed end opposite the respective junction.

- 8 -